

REMARKS

Reconsideration of the present application is respectfully requested. The above amendments are made only to place the claims in a form which Applicants prefer, not in response to the rejections or to comply with any statutory requirement of patentability -- no amendments are believed to be necessary. The above amendments raise no new issues that necessitate further search and do not materially alter the scope of the claims. Therefore, this amendment is appropriate for entry under 37 C.F.R. § 1.116.

Summary of Office Action

Claims 1-3, 5, 6, 8-12 and 16-26 are rejected under 35 USC 103(a) as being unpatentable over Srikantan et al (U.S. Pub No. 2002/0056126 A1).

Summary of Amendments

In this response, no claims have been canceled; claims 1, 9, 10 and 16 have been amended, and no claims have been added. No new matter has been added.

Discussion of Rejections

Applicants respectfully traverse the rejections. Claim 1, as amended, recites:

1. (Currently amended) A method comprising:
 - receiving, at the streaming media cache, a request from a first client system for a stream of media data, the stream of media data including a first streaming media data packet representing a particular portion of the stream of media data;
 - receiving, at the streaming media cache, a request from a second client system for the stream of media data;
 - receiving, at the streaming media cache, the first streaming media data packet from an upstream server, **the first streaming media data packet including a delivery time at which the first streaming media data packet is scheduled to be delivered to each of the first and second client systems;**

pseudo-randomly selecting a first delay value and adding the first delay value to the delivery time of the first streaming media data packet to form a first modified delivery time for the first streaming media data packet;

pseudo-randomly selecting a second delay value and adding the second delay value to the delivery time of the first streaming media data packet to form a second modified delivery time for the first streaming media data packet;

modifying the first streaming media data packet with the first modified delivery time in the streaming media cache to form a first modified first streaming media data packet;

modifying the first streaming media data packet with the second modified delivery time in the streaming media cache to form a second modified first streaming media data packet;

outputting the first modified first streaming media data packet from the streaming media cache to the first client system to cause the first modified first streaming media data packet to be delivered to the first client system at the first modified delivery time; and

outputting the second modified first streaming media data packet from the streaming media cache to the second client system to cause the second modified first streaming media data packet to be delivered to the second client system at the second modified delivery time.

The cited art does not disclose or suggest using pseudo-randomly selected delay values to modify delivery times in streaming data packets.

The Office contends Srikantan discloses everything in Applicants' independent claims except the feature of modifying the media data packet delivery time for first and second client respectively so that the media data packet from the source reaches the first and second client at slightly different times (Office Action, p. 2, last line, to p. 3, line 3). However, the Office nonetheless finds the claimed invention would be obvious based on Srikantan. Applicants respectfully disagree with the Office, both regarding what Srikantan discloses and the conclusion of obviousness.

1. No disclosure of time delays

The Office cites Srikantan at paragraphs [0008] and [0055] as allegedly disclosing that time delay techniques are utilized. Applicants respectfully disagree. The cited disclosure indicates that "different client streams may, at any given time, be streaming media from different time indices within the media track." This disclosure does not imply the use of time delay techniques at all. Srikantan does not explain when this situation might occur, but it is entirely possible that it refers to a situation where different clients have requested different portions of the media track, or where different clients have submitted their requests at different times (the "time indices" in Srikantan correspond to the logical positions of video frame or audio samples within a media program, relative to the other frames/samples -- see Srikantan, [0036]).

The Office responds to this argument on page 9 of the Office Action by stating that this is "merely [Applicants'] own assumption". However, the Office's conclusion that time delay techniques are used is likewise just the Office's own assumption, which is not supported by any disclosure in Srikantan.

Further, assuming *arguendo* Srikantan inherently or implicitly discloses the use of time delay techniques, Srikantan's disclosure at [0008] and [0055] does not relate to applying such delay techniques at the packet level, as in Applicants' claimed invention. The cited disclosure in Srikantan refers to different "time indices" within a particular media track. The "time indices" in Srikantan are values that indicate the logical position of a video frame or audio sample within a media program, relative to the other frames/samples (see Srikantan, [0036]). A video frame or audio sample is not the same thing as a streaming media packet; video frames and audio samples do not necessarily have one-to-one correspondences to the data packets that are used to transmit them to clients (Srikantan, [0036], [0037]). Thus, even if Srikantan inherently discloses the use of delay techniques (which it does not), Srikantan does not disclose or suggest applying such techniques to individual streaming media packets, as in the present invention.

2. No disclosure of *pseudo-random* selection

The only rationale given by the Office for its assertion that Srikantan discloses pseudo-randomly selecting a time delay value is in the Office's statement, "Additionally the fact that streaming server [*sic*] is "striving to meet" the demands of the streaming real-time media to maintain the desired quality of service is a clear indication that time delay is adjusted pseudo- randomly to meet desired quality of service" (Office Action, page 3, lines 11-13).

Applicants respectfully disagree: In no way does the very general disclosure in Srikantan that the streaming server is "striving to meet" the demands of streaming real-time media to maintain desired quality of service equate to, imply, or fairly suggest, the use of *pseudo-random* selection of time delays. The Office has made a huge assumption here, which is unsupported by any evidence. Assuming *arguendo* Srikantan discloses using different delay values for different clients (which Applicants do not concede), Srikantan is completely silent about how such delay values would be generated. Pseudo-random selection is not the only possibility, nor is it obvious to use it.

The Office goes on to state, "At the time invention was made it would have been obvious . . . to recognize that the above disclosed method by Srikantan involves modifying the media packets (frame) delivery time belonging to single media source (live or prerecorded event) in order to accommodate simultaneous real-time transmission to multiple clients" (Office Action, page 3, lines 13-18)(emphasis original). However, these assertions by the Office are directly contradicted by the Office's admission on the same page that Srikantan does not disclose these features (Office Action, p. 2, last line, to p. 3, line 3). The Office appears to allege, in lines 11-18 of page 3 of the Office Action, that Srikantan does in fact disclose these features (at least inherently), not that it would be obvious to modify Srikantan in this way. Thus, the Office appears to be inappropriately mixing rationales for anticipation and obviousness.

If the Office meant to allege that this functionality is inherent in Srikantan, then Applicants respectfully disagree and remind the Office that "inherency . . . may not be established by mere probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* At 1269 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (emphasis added)). If, on the other hand, the Office meant to assert that it would be obvious to modify Srikantan in the manner alleged, the Office provides absolutely no substantive rationale to explain why that would be obvious, as is required by case law. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. at 14, 82 USPQ2d at 1396 (2007)(emphasis added)(quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). Here, the Office has provided no "articulated reasoning", nor any "rational underpinning", to support the conclusion of obviousness. The Office merely states the conclusion that it would be obvious. Thus, the rejection does not meet the threshold for establishing a *prima facie* case of obviousness.

There is absolutely no hint or suggestion in Srikantan of pseudo-randomly modifying a delay value for streaming media packet, even assuming *arguendo* Srikantan discloses the use of delay values (which, again, Applicants do not concede).

Second, the Office states "that the packets of a live or prerecorded broadcast cannot reach all the viewers at the same time, because doing so will create huge traffic bursts and potentially bring down the system/network, therefore they have to be sent out at different times for example, T, T+1, T+2 ... T+N" (Office Action, page 7, paragraph 13). This statement by the Office seems to be suggesting that the existence of a potential problem in the prior art (i.e., huge traffic bursts that potentially bring down the system) necessarily means that the cited reference addressed that problem and inherently disclosed a solution (e.g., time delays and/or pseudo-random selection of time delays). That is faulty logic on its face. The mere existence of a problem in the

prior art does not prove the existence of a solution, or that the prior art discloses a solution for the problem.

And even assuming *arguendo* the Office's statement is correct, this method is distinguishable from streaming data packets to multiple clients using pseudo-randomly selected delay values, as in claim 1. By selecting the delay values pseudo-randomly, the delay values are not fixed at $T, T+1, T+2 \dots T+N$. Using predetermined different times $T, T+1, T+2 \dots T+N$ requires fixing the number of delays (N) and the delay increment ($1, 2 \dots N$). In contrast, by selecting the delay values pseudo-randomly, the delay values are not sequential and there is no fixed delay increment.

3. No disclosure of delivery time in a streaming media packet

Applicants also find no hint in Srikantan that a streaming media data packet includes a delivery time at which a streaming media data packet is scheduled to be delivered to a client system. Note that the "time indices" within the media tracks described in Srikantan are not delivery times. They are values that indicate the logical position of a video frame or audio sample within a media program, relative to the other frames/samples (see Srikantan, [0036]).

On page 6 of the Office Action, paragraph 11, last five lines, the Office states, "'Time indices' is referring to the sequence (metadata) of the packet so that the media data (packet) can be inserted into a buffer" That assertion is incorrect. In Srikantan, the time indices are not related to data packets; they merely indicate the logical position of a frame or audio sample within a media program. Furthermore, video frames and audio samples do not necessarily have one-to-one correspondences to the data packet that are used to transmit them to clients (Srikantan, [0036], [0037]).

In response to Applicants' arguments on this issue, the Office asserts (Office Action, page 6, paragraph 11) that Srikantan teaches that the delivery of each frame or other unit of media must be performed in a specified order and within the certain period of time to maintain Quality of Service at an acceptable level (i.e. to avoid congestion as

a result of all streams being delivered/transmitted at the same time). However, even if that assertion is true, that does not necessarily mean that individual packets (as opposed to frames or samples) include delivery times in Srikantan.

For the above reasons, claim 1 and all claims dependent on it are thought to be patentable over the cited arts.

Independent claims 9, 16, and 22 recite similar distinctive limitations similar to those discussed above regarding in claim 1 that differentiate the claims from the cited art for similar reasons. Therefore, claims 9, 16, and 22 and all claims which depend on them are also thought to be patentable over the cited arts.

Applicants have not necessarily discussed here every reason why every pending independent claim is patentable over the cited art; nonetheless, Applicants are not waiving any argument regarding any such reason or reasons. Applicants reserve the right to raise any such additional argument(s) during the future prosecution of this application, if Applicants deem it necessary or appropriate to do so.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Conclusion

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

Dated: March 11, 2009

Respectfully submitted,

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